

## Claims

1 A network switch for receiving data packets including header portions and for selectively forwarding said data packets, said switch including

a register for receiving a header portion of a packet,

a look-up engine operative to obtain associated data in response to the header portion; and

a network processor which is operative to perform a processing function in response to at least one of said header portion and said associated data; wherein

said look-up engine provides for said network processor a first indication, said first indication indicating that said associated data has been obtained; and

said network processor is operative in response to said first indication to cause modification of said associated data in accordance with said processing function and to provide to said look-up engine a second indication, said second indication indicating that said modification has been performed

2. A network switch according to claim 1 wherein said associated data includes header data for the packet as it is to be forwarded and said network processor executes said processing function to cause modification of said header data

3. A network switch according to claim 1 wherein said associated data includes a port bitmask and said network processor executes said processing function to cause modification of said port bitmask

4. A network switch according to claim 3 wherein said look-up engine in response to said second indication causes the provision of a final port bitmask for said packet

5. A network switch according to claim 3 wherein said associated data includes a field indicating replication of the packet and wherein said network processor is operative to access said field and to control a replication process for the packet.

6. A network switch for receiving data packets including header portions and for selectively forwarding said data packets, said switch including.

a register for receiving a header portion of a packet,

a look-up engine operative to obtain associated data in response to the header portion, and

a network processor which is operative to perform a processing function in response to at least one of said header portion and said associated data,

wherein

said look-up engine provides for said network processor a first indication, said first indication indicating that said associated data has been obtained;

said network processor is operative in response to said first indication to cause modification of said associated data in accordance with said processing function and to provide to said look-up engine a second indication, said second indication indicating that said modification has been performed, and

said look-up engine is operative after providing said first indication to wait for said second indication before performing any further operation on said packet

7. A network switch according to claim 6 wherein said associated data includes header data for the packet as it is to be forwarded and said network processor executes said processing function to cause modification of said header data

5 8. A network switch according to claim 6 wherein said associated data includes a port bitmask and said network processor executes said processing function to cause modification of said port bitmask.

10 9. A network switch according to claim 8 wherein said look-up engine in response to said second indication causes the provision of a final port bitmask for said packet

15 10. A network switch according to claim 9 wherein said associated data includes a field indicating replication of the packet and wherein said network processor is operative to access said field and to control a replication process for the packet